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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,297	03/26/2004	Luigi Tallone	36030312 US02	9276

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EXAMINER

CHIEM, DINH D

ART UNIT PAPER NUMBER

2883

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/810,297

Applicant(s)

TALLONE ET AL.

Examiner

Erin D. Chiem

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 7-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1,2 and 7-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This office action is in response to applicant's amendment filed on May 8, 2006. Currently claims 1, 2, and 7-26 are pending. In view of applicant's amendment, the rejection made under 35 USC 112 2<sup>nd</sup> paragraph is withdrawn.

#### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

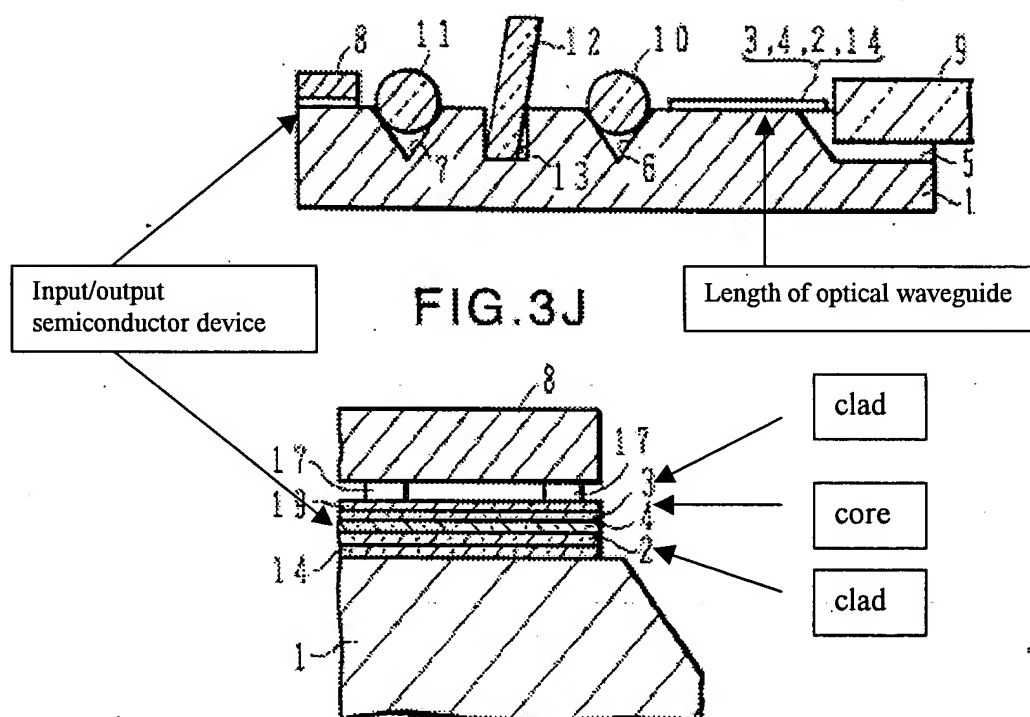
Claims 1, 2, 7- 18, 21-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Tabuchi (US 5,481,629 hereafter "Tabuchi").

Regarding claims 1 and 15, Tabuchi discloses a mounting arrangement comprising a substrate (1), referring to Fig. 2A, 2B, and 6, an input optical fiber (9) associated with said substrate an output optical waveguide ('2' '3' '4') in a given set of planar layers of the substrate, at least one optical component (ball lens 11, isolator 12, or ball lens 10) being mountable on the substrate to transmit optical radiation from the input optical fiber to the output optical waveguide. Furthermore, Tabuchi teaches an input/output optical semiconductor device (8) further comprising a waveguide ('2' '3' '4'). Since the core and the claddings of the two segments of waveguides are referred to with the same numeric reference, for differentiating purposes the output waveguide will be referred to as (8) and the length of optical waveguide will be referred to as (14). The length of optical waveguide (14) on said substrate in the same planar

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layers of said output optical waveguide (8), the length of optical waveguide is interposed between the input optical fiber (9) and at least one optical component (10, 12, 11) so that at least one optical component is interposed between the length of optical waveguide and the output optical waveguide.

FIG. 3I

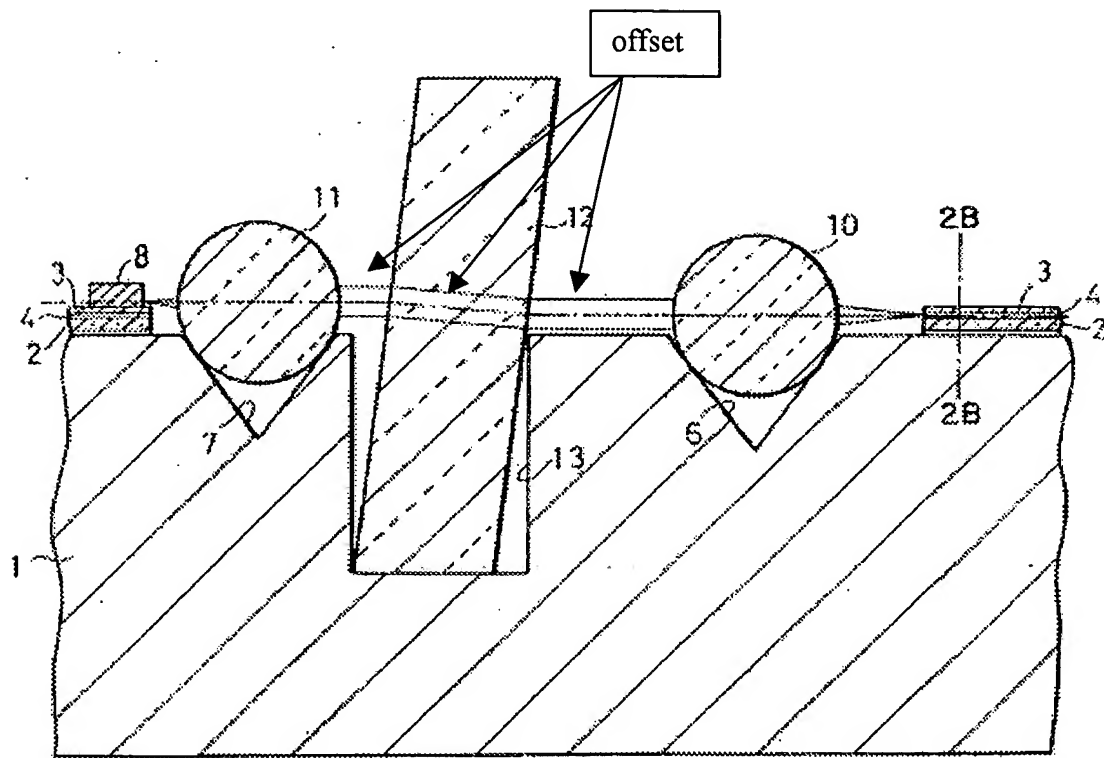


Claims 2, 7, and 16 substrate (1) is a silicon optical bench support; wherein the output optical waveguide and the length of optical waveguide are aligned along an input-to-output propagation path.

Regarding claim 8 wherein the end surfaces of the output waveguide and the length of optical waveguide are offset to a perpendicular to input-to-output propagation path and a

propagation path of radiation through at least one optical component is at an angle with respect to the input-to-output propagation path.

FIG. 2A



Claims 9-11, and 21-23, referring to Fig. 3J and see col. 8, lines 20-22 wherein Tabuchi discloses the optical member (12) may form an optical isolator by applying a thin laminated layer upon the substrate of the rectangular optical member (12). The examiner would like to point out that an optical isolator is a one-way filter for a range of light frequencies. Regarding claim 22, this is a functional limitation within a device claim, thus the limitation retains no patentable weight.

Claims 12-14, 17 and 24-26, in the referring figures, the round elements (10, 11) are ball or spherical lenses contained in a pyramidal hole (6a-6e and 7a-7e), fiber (9) is supported by a v-

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groove (5). The examiner respectfully point out that the assembly of two convex lenses facing each other will naturally form the internal image and a ball lens is a composition of two congruent convex lenses.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tabuchi in view in view of Drake (US Patent 5,999,303 hereafter "Drake").

Tabuchi discloses all the limitations of claim 15, but does not disclose using optical fibers from the same fiber batch for the input and length of fiber on the substrate.

Drake discloses using input and output fibers from the same manufacturing batch having very precise lengths for both lengths of input and output fibers (col. 16, line 3-6) for the purpose of maintaining the same fiber characteristics in an optical system.

Since Tabuchi and Drake are both from the same field of endeavor; the purpose disclosed by Drake would have been recognized in the pertinent art of Tabuchi.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use optical fibers that were drawn from the same batch in implementing on one optical system. **The motivation** for using optical fibers drawn from the same batch is to maintain the closely similar characteristics of the optical fibers such as having substantially same core index, cladding index, and the same low level of impurities.

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Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tabuchi in view Harpin et al. (US Patent 5,787,214 "Harpin" hereinafter).

Tabuchi discloses all the limitations of claim 15, but does not disclose the end surfaces of the input optical fiber comprise an anti-reflective coating.

Harpin teaches applying a layer of silicon nitride to the end facet of the waveguide for the purpose of reducing backreflection (col. 4, lines 1-4).

Since Tabuchi and Harpin are both from the same field of endeavor, the purpose disclosed by Harpin would have been recognized in the pertinent art of Tabuchi.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to apply anti-reflective coating to the end facet of the waveguides that are coupled together. **The motivation** for applying an anti-reflective coating is to reduce backreflection as taught by Harpin.

### ***Response to Arguments***

Examiner carefully considered applicant's arguments and reconsidered Tabuchi reference with different interpretation of the claims. Examiner further clarified each and every one of Tabuchi's numeric references that read upon applicant's structural limitations. Therefore, applicant's arguments with respect to claims 1, 2, 7-26 have been considered but are moot in view of the new ground(s) of rejection.

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*Contact Information*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin D. Chiem whose telephone number is (571) 272-3102. The examiner can normally be reached on Monday - Thursday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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